doi 10.15826/recon.2016.2.4.042
UDC 332.1

S. N. Kotlyarova
Institute of Economics of the Ural Branch of RAS (Ekaterinburg, Russian Federation; e-mail: sv_gavrilova@mail.ru)

PRIORITY AREAS FOR THE SUPPORT AND PROMOTION OF IMPORT SUBSTITUTION IN THE CONSTRUCTION INDUSTRY [1]

The issues of import dependency and import substitution are major factors in the development of Russian economy. The subject matter of this study is the import dependency of the construction industry in the area of technology, while the goal of the study is to identify the scale of the problem and justify the mechanisms to overcome it. The article substantiates the significance and importance of import substitution in the production of construction materials and equipment. In the construction industry, the import substitution can be implemented in two main areas that require different approaches in support and promotion. First, this is the import substitution of construction products aimed at minimizing the risks of disruption in the supply of imported construction products and preferential use of domestic analogs of imported construction products. Second, this is the import substitution of technologies used for construction products manufacturing, when such a substitution is focused on promoting the development of competitive domestic production and technological and managerial modernization in the construction materials industry and construction industry. In the construction industry, the processes of import substitution have a number of constraints. The article examines the capabilities and factors that limit import substitution. Particular attention is paid to the practice of building regional construction clusters as a tool for implementing the import substitution policy. The author critically examines the goals and principles in the establishment of clusters, proactive sources, transfer systems, and the use of knowledge and innovation. The article makes a conclusion on the need for the strategic development of new products for the construction sector and domestic Research and Development within not only sectoral but also a cross-sectoral framework. The author provides a rationale for the basic forms of state support required for implementing the import substitution policy in the construction industry. This includes organizational, administrative, and economic measures, the implementation of which during the transition to import substitution could reduce the cost of construction materials, products, and structures. At the end of the article, the author formulates the priority areas for support under the policy aimed at promoting import substitution in the construction industry. The conclusions and recommendations proposed in this paper can be used by federal and regional authorities in the elaboration and adoption of strategic documents for the development of construction industry and in the planning of spatial development of the territories as well.

Keywords: import dependency, construction industry, promotion of import substitution, competitiveness of construction industry, cross-sectoral cluster, technological renewal, innovation in the construction, import substitution policy, promotion of development, import substitution mechanism

Introduction

The construction complex is one of the most important sectors in the economy. It is the basic sector for the development of other components of the economy that implements social needs. In general, the transformation of economic development depends on the competitiveness of construction industry and efficiency of its business entities. The success of transformation processes is determined, on the one hand, by the innovative development of construction complex and, on the other, by strategic regulation of its development at the national and regional levels.

The problem of import dependency of the construction industry is examined in two aspects: in terms of production of construction materials and production of construction equipment.

Given the widening gap between the needs of the economy in innovation and capabilities to meet these needs by the national research complex, the technological renewal of companies in the construction industry takes place primarily in the form of borrowing foreign technologies, mostly through imports of technology equipment. However, the processes of import substitution in the construction industry also have a number of constraints (Table. 1) [1]. This is caused by the fact that the machine-building complex lost its capability to produce the construction equipment that meets

[1] Original Russian Text © S. N. Kotlyarova, published in Ekonomika regiona [Economy of Region]. — 2016. — Vol. 12, Issue 4. — P. 1146–1156.

the modern requirements and as a result lost its market of construction machinery and equipment. The reasons for this loss are different, but the most important of them are a lack of state policy governing the development of construction industry, lack of investments in R&D and production of new materials and technology, low barriers to market entry for foreign manufacturers [2]. In the construction industry, the share of Russian companies engaged in technological innovation was about 3 % in 2014, while the average for industrial sectors was more than 10 %.[2]

The share of imported machinery in the construction materials industry is 80 % on average. Moreover, the highest share of foreign machine builders is in the cement and brick production subsectors (about 90 %). The most favorable situation is among the producers of reinforced concrete. Up to 70 % of the equipment for reinforced concrete product plants is manufactured within the Russian Federation. However, the technical level of this equipment is low and requires radical upgrading.

In this context, it is particularly important to search for the mechanisms to support and promote import substitution in the construction industry because according to the experts the transition to import substitution may reduce the cost of building materials by 10 %–20 % within 5–10 years[3].

Import Substitution: Opportunities and Constraining Factors

Technological renewal of companies in the construction industry takes place primarily in the form of borrowing foreign technologies, mostly through the imports of technology equipment. This process is evidence of the existing and growing gap between the needs of the economy in the innovation renewal and capability of the Russian research complex to meet these needs. However, the processes of import substitution in the construction industry have a number of constraints (Table).

In the construction industry, import substitution can be implemented in two main areas that require different approaches to support and promotion, including by the state.

Table

Opportunities and constraints of import substitution in the construction industry

Opportunities	Existing constraints
Reducing technological dependence of the industry Ensuring national security	Relatively long period of "resetting" to a new development model, financial constraints
Development of production capacity, technical reequipment of the industry	In the case of inadequate capacity and resources, creating a facility for manufacturing some products in Russia may lead to increasing dependence on imported technology and materials
Improving the quality of manufactured goods, improving competitiveness of products	Inadequate level of professional personnel
Development of innovative activity in the industry Import substitution should be built on the basis of innovation and focus not on borrowing foreign analogs but on leading development of national technology	Import substitution implies implementing the policy of catch-up development rather than leading development. This is because by borrowing the foreign experience and substituting the existing foreign products and technology the Russian industry will always stay behind. [3]

1. Import substitution of construction products aimed at minimizing the risks of disruption in the supply of imported construction products and preferential use of domestic analogs of imported construction products along with the provision of highest quality for the construction projects.

2. Import substitution in the area of technologies for the manufacturing of construction products focused on providing regulatory and economic incentives for developing the manufacturing of domestic competitive construction products and managerial modernization of construction materials industry, construction industry, etc.

The Russian Government has chosen the first option of import substitution in the construction industry. Organizational measures adopted by the federal government as part of counter-sanctions

[2] Proekt Strategii innovatsionnogo razvitiya stroitelnoy otrasli Rossiyskoy Federatsii na period do 2030 goda [Draft Strategy for Innovative Development of Construction Industry in the Russian Federation for the Period until 2030]. Sredstvo informatsii dlya professionalov stroitelnoy otrasli "ZaNoStroy.RF" [Information tool for professionals of construction industry "ZaNoStroy.RF"]. Retrieved from: http://zanostroy.ru/ (date of acces: April 23, 2016).

[3] Importozameshchenie stroymaterialov v RF dast effekt cherez 5–10 let — eksperty [In the Russian Federation, import substitution of construction materials will give effect in 5–10 years, as the experts say]. Informatsionnoye agentstvo — RIA Nedvizhimost [News agency — RIA Realty]. Retrieved from: http://riarealty.ru/analysis_trends/20150528/405332405.html (date of access: February 23, 2016).

became one of the factors constraining the import of construction materials and equipment. In 2015, Russian authorities imposed a ban on state and municipal procurement of foreign construction equipment, quarry equipment, utility machinery, and special equipment that have their Russian analogs[4]. Another objective proclaimed by the Russian Government is a partial replacement of foreign-made equipment and materials by their Russian analogs during the construction of stadiums for 2018 World Cup.

Import substitution in the construction industry should be viewed as the creation of conditions, in which domestic producers can compete with foreign companies on the market grounds. Active import substitution based on the establishment of new competitive production facilities will facilitate the structural transformations in the economy, build new production facilities, create additional demand for locally-manufactured equipment, raw materials, and contribute to the development of scientific research and transition to the world-class R&D [4]. Moreover, the new production facilities, especially those involved in high-tech import substitution, cannot focus only on consumers in the domestic market. They should enter and successfully compete in the markets of CIS and other foreign countries. In other words, they should become export-oriented[5].

Import substitution in the construction industry can be achieved only on the basis of innovative development. In this case, the innovation (technological, organizational, marketing, etc.) should be comprehensive, and its implementation should be based on the cluster development model [5].

The bulk of equipment required for the production of construction materials and structures is imported from Germany, France, China, and a number of other countries (Fig. 1).

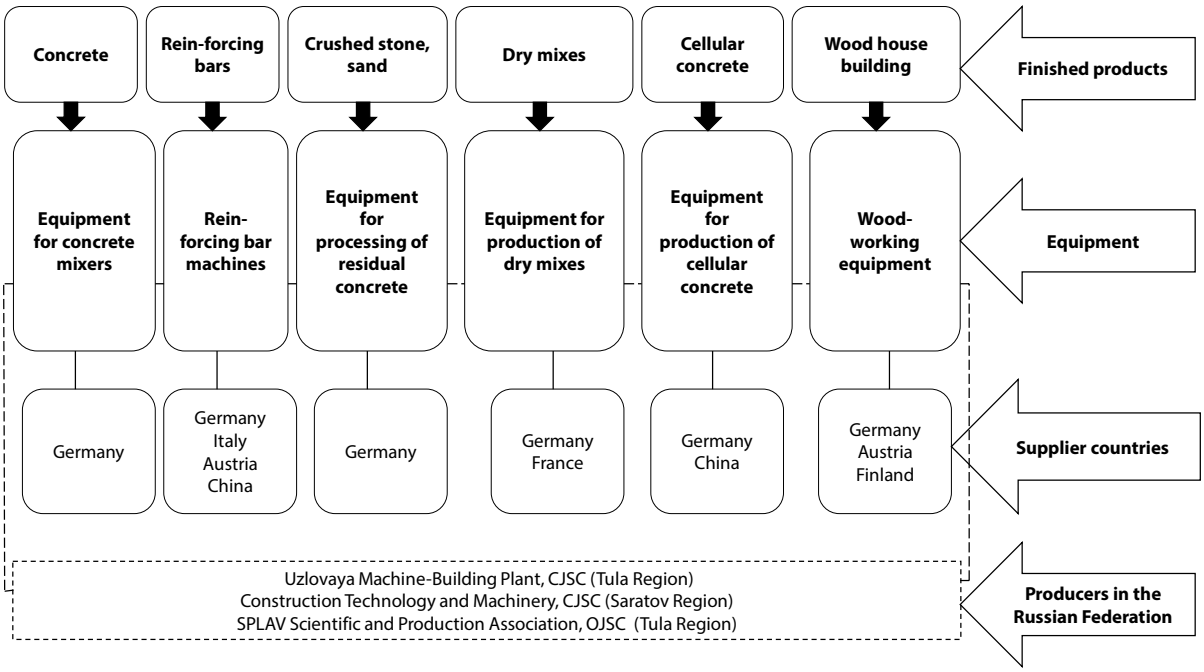

Fig. 1. *The market of equipment for the production of construction materials, main suppliers, and potential producers in the Russian Federation*

However, Russia has companies that possess the production capacity for manufacturing similar equipment and have relevant innovation, human resources, and another potential. These companies need the state support required for implementing the import substitution policy through organizational and administrative arrangements as well as the economic measures.

In 2015, the Ministry of Industry and Trade of the Russian Federation prepared sectoral action plans on import substitution in twenty industries designated as priority industries for the development of import-substituting production. The construction industry was not included there. This makes it

[4] On establishing a ban on admission of certain types of engineering products originating from foreign countries for the purposes of procurement for state and municipal needs. Decree of the Government of the Russian Federation No. 656 as of July 14, 2014. Retrieved from: Garant, a reference and legal information system.

[5] Le Cluster Eco-Habitat Poitou-Charentes. Retrieved from: http://www.cluster-ecohabitat.fr (date of access: January 18, 2016), The European Secretariat for Cluster Analysis. Retrieved from: http://www.cluster-analysis.org / (date of access: February 8, 2016).

urgent to develop a sectoral action plan on import substitution in the construction industry of the Russian Federation and update the Strategy for Innovative Development of the Russian Construction Industry until 2030 with an account of promotion of import substitution in the industry[6].

Effective development of import substitution in the industry requires a transition to systemic work with the relevant business community, providing a set of incentives and establishing processes associated with financial assistance to companies involved in import substitution, elimination of administrative barriers, and monitoring of processes within the industry. [6].

Areas of Import Substitution

The main priorities of import substitution in the construction industry are as follows:

1. Import substitution means not just copying foreign analogs but their significant improvement and launch of national original products and technologies.

2. Import substitution can be implemented only by building the entire process chain "equipment—production of construction materials and components—design involving the use of produced construction materials and components—construction of residential, industrial, agricultural, infrastructural sites under a standard technology" and ensuring that the products reach their consumers through cofinancing arrangements.

3. In terms of organization, independent entities and companies can be brought together only by establishing cross-sectoral cluster associations.

4. Transition of state authorities to cluster-based policy.

Amid inadequate investment resources, personnel problems in the construction industry, and backwardness in the area of new technology and R&D, the main forms of state support required for implementing the import substitution policy are organizational, administrative, and economic measures (Fig. 2). While the administrative and organizational measures are primarily aimed at supporting the import substitution policy, the economic measures provide the incentives.

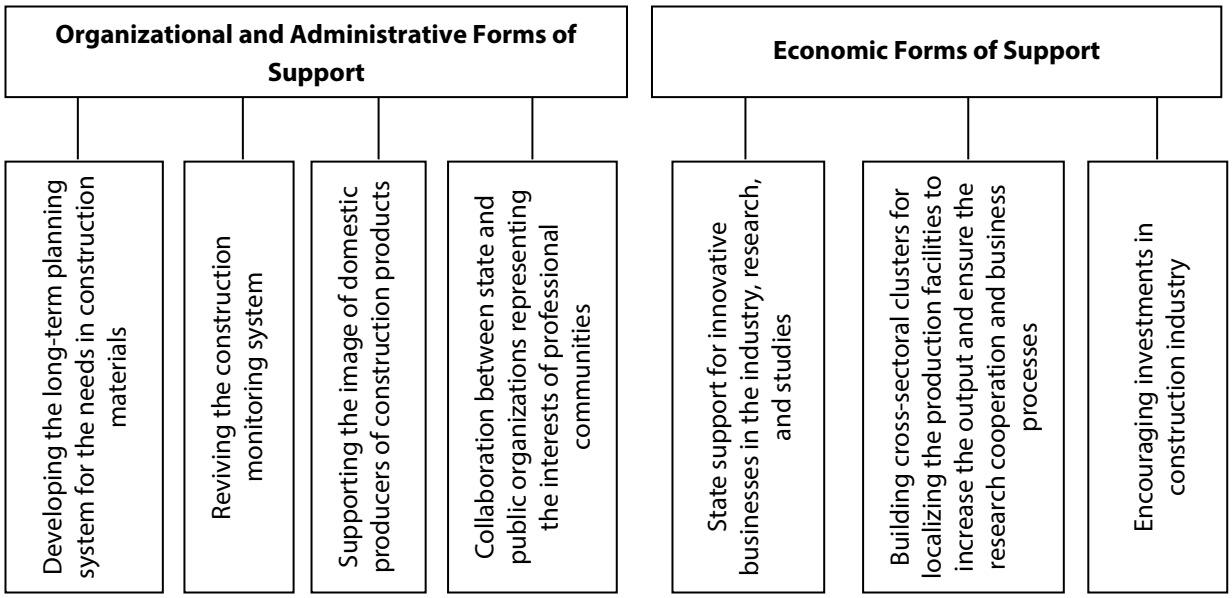

Fig. 2. *The main forms of state support for the construction industry required for implementing the import substitution policy*

In the developed countries, the key area of state support for the industry is the assistance in the search for new sales markets for the products and promotion of demand for them. [7] Availability of efficient sales markets is the final stage and criterion for the effectiveness of state support measures, because if the products are not marketable, the measures aimed at supporting their manufacturing are ineffective.

[6] Proekt Strategii innovatsionnogo razvitiya stroitelnoy otrasli Rossiyskoy Federatsii na period do 2030 goda [Draft Strategy for Innovative Development of the Russian Construction Industry until 2030]. Zanostroy.RF. Sredstvo informatsii dlya professionalov stroitelnoy otrasli [ZaNoStroy.RF. Information tool for professionals of construction industry]. Retrieved from: http://zanostroy.ru/ (date of access: April 23, 2016).

Another important area of support is the establishment of construction monitoring system. The state regulation should be focused on elaborating and adopting standards, which will ensure the safety of construction sites and environment and take into account the requirements for the technological development of the industry. This requires the development of self-regulatory institutions and nonstate expert appraisal of construction as well as the establishment of a nonstate institution for supervision and control of construction. For the state and economic policy, the key area should be the support to domestic producers of construction products. There is a need in ideological and informational support, organizational and methodological assistance to producers.

High wear and tear of fixed assets in the companies of construction materials industry and construction industry, their technological lag with regard to similar industries in other countries, and low competitiveness of Russian construction products make the case for the need of state support for innovative businesses and encouraging investments in the construction industry.

Regional Construction Clusters as a Tool for Implementing the Import Substitution Policy

The establishment and development of construction clusters contributes to the emergence of an innovative system in the construction industry and innovation. [8] These very clusters may become a good tool in the implementation of the import substitution policy by the state because the joint efforts of authorities, education, and business communities can generate a synergy effect [9].

Construction clusters are established and operate in the Sverdlovsk, Samara, Saratov, Vologda, and Lipetsk Regions. The clusters are established for various goals. For example, the Ural construction cluster (the Sverdlovsk Region) and construction materials industry and house building cluster (the Samara Region) were established to improve the competitiveness of regional construction complex and ensure the provision of the territories, in which they were created, with the entire range of construction materials. The particular aspect of the Ural cluster is that it focuses not only on preserving but also on expanding the sales markets, including through the development of the territories in the Ural North [10]. The goal of establishing the cluster in the Vologda Region (international wood house building and wood processing cluster) is to develop a new sector of wood house building in the region and to enter new markets[7]. Technovation, an innovative interstate engineering cluster of universal construction systems and technologies in the Saratov Region, and the cluster of composite construction materials of the Lipetsk Region are seeking to enter new markets through the introduction of new innovative products in the area of construction.

The most important point in addressing the problems of import substitution within a cluster is the approach to the selection transfer system and use of innovation. Two approaches are used in the established construction clusters: purchasing innovative foreign technology and developing new competitive products and conducting proprietary R&D to meet the needs of the construction market. [9] Only the implementation of the strategy aimed at developing new products can lead to the production of modern competitive construction products and allow achieving the goal of reducing the import dependency from foreign machinery and equipment for the needs of the construction industry.

The purpose of establishing regional construction clusters is to consolidate the efforts of local companies to retain the existing or enter new sales markets, implement major investment projects that are beyond the capacity of individual companies. The purpose of establishing cross-sectoral clusters is to localize the production, increase its output, and ensure the cooperation of research and business processes [11].

The relevance of establishing the construction clusters is confirmed by the elaboration of the innovative development strategy for the construction industry that defines the state policy in this area. The government plans to increase the output of high-tech products used in the construction complex through the implementation of innovative high-tech projects to manufacture the finishing materials, innovative technology for erecting buildings and structures from wood, creating a model of resource-saving housing, etc. [12]. The production of competitive Russian-made construction products cannot be organized without modernizing and further developing such sectors as the machine-building industry, instrument-making industry, chemical industry, etc. [13]

Typically, the clusters include companies of certain industries (sectors). At the same time, the efficiency of their operation is largely determined by their cross-sectoral cooperation, when innovative

[7] Program for the Development of International Wood House Building and Wood Processing Cluster in the Vologda Region for 2014–2020 Rtrieved from: http://economy.gov35.ru/ (date of access: September 23, 2015).

products can be created at the intersection of the sectors[8]. A cross-sectoral cluster is an integrated structure consisting of interconnected but legally independent companies and their supporting institutions that have technological and other relationships and are focused on the general consumer market, resources, equipment united under an innovative program. [14]. In terms of their scale, the clusters are divided into international, national, and regional. Regional clusters are characterized by their competitiveness compared to neighboring regions; national clusters, by their competitiveness within a single country; international, by their global competitiveness.

To understand the essence of import substitution technology based on cross-sectoral cluster approach, it is useful to consider the idea of establishing and developing a cluster focused on promoting the implementation of high technology and creation of comprehensive production chains by taking the example of Technovation, an innovative interstate engineering cluster of universal construction systems and technologies in the Saratov Region[9]. The cluster is focused on manufacturing high-quality innovative products and effective cooperation of all elements of research, technology, and production chains created during the implementation of advanced construction solutions. The cluster includes research, design, construction, and machine-building companies of several Russian regions (the core of the cluster is based in the Saratov Region), Belarus, and Kazakhstan. This cluster was established by using the cross-sectoral approach. One of the most important conditions for developing R&D sector within the cluster is the strengthening of scientific and technical cooperation:

— Between the cluster participants (across the entire innovative product chain from fundamental and applied research to creation of production facilities and promotion of products on the markets).

— With Russian companies and organizations not included in the cluster.

— With foreign companies and organizations.

These types of cooperation between the cluster participants are aimed at developing the result-oriented chains for the dissemination of new knowledge, technology, and innovation (Fig. 3).

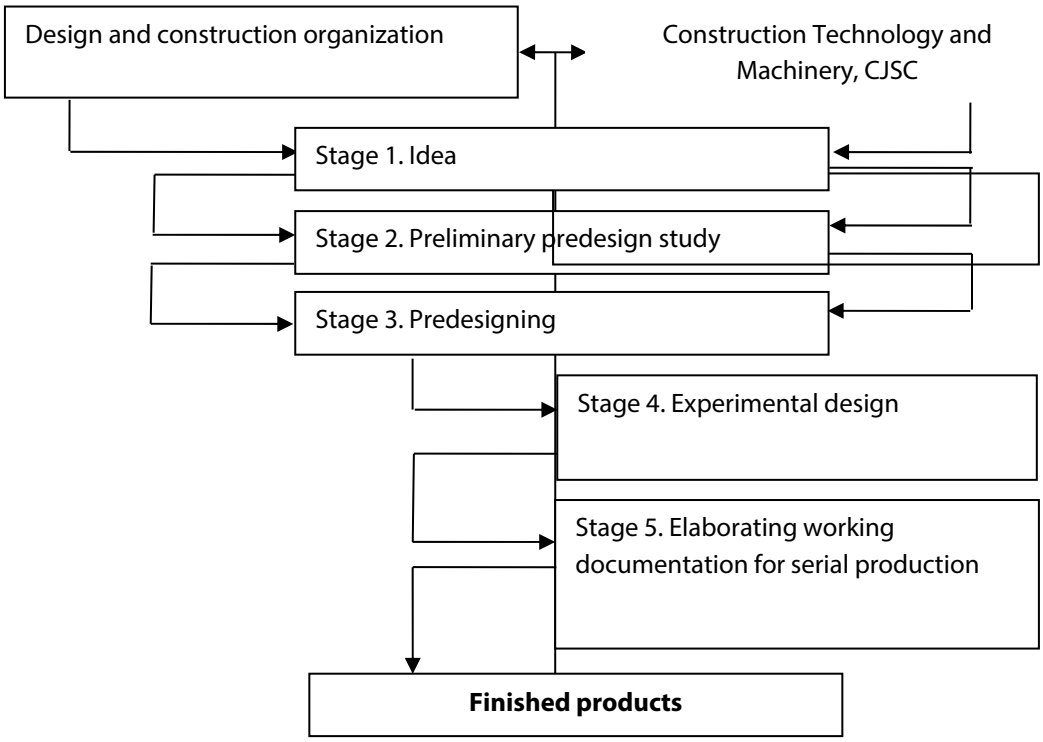

Fig. 3. *Organizational diagram of generating technologies in Technovation, an innovative interstate engineering cluster of universal construction systems and technologies*

[8] Transgranichnyye klastery Severo-Zapada Rossii i Severo-Vostoka Estonii [Cross-Border Clusters in the North-West Russia and North-East Estonia]. (2009). Proekt "Razvitie klasterov i internatsionalizatsiya predpriyatiy prigranichnykh regionov Rossii i Estonii" [Project "Development of Clusters and Internationalization of Enterprises in Cross-Border Regions of Russia and Estonia"]. Retrieved from: http://www.kohtla-jarve.ee/uploads/documents/valissuhted/projektid/2/cd/ru/eternal.pdf (date of access: February 12, 2011).

[9] The Concept for the Development of Construction Materials Industry and Industrial House-Building Cluster in the Samara Region until 2020. Retrieved from: http://www.minstroy.samregion.ru/ (date of access: September 8, 2014).

Creating a large-scale economic system that accumulates the advantages of several economic entities and gives additional impetus to their development entails a whole range of effects implemented both within the entities involved in the activity of a given system and on a wider scale (in particular, at the regional and national levels)[10].

Therefore, to assess the effects of establishing and developing Technovation cross-sectoral cluster, we should try to measure not only the changes in the financial results of its participant companies but also the effects (not only economic) of this association for the construction complex, consumers of products manufactured within the cluster, and territory where the cluster participants are based—that is, all entities on which the processes that take place within (or with involvement of) the cluster will have direct or indirect impact.

A number of recent publications describing the effects of establishing and developing clusters propose to focus on the opportunities for the main beneficiaries to achieve their priority goals [15, 16].

The advantages obtained by cluster participants following the establishment of Technovation interstate engineering cluster are obvious:

— Increasing the knowledge-intensity and competitiveness of products.

— Developing high-tech production facilities.

— Improving qualifications of specialists.

— Expanding the range of products, ensuring the emergence of new types of products.

— Increasing company assets by attracting investment.

— Building a positive image of companies, the reputation of components in a reliable and dynamically developing complex.

— Expanding the business and gaining new segments on the sales market of products manufactured by the companies (in particular, by generating new opportunities for their exports).

— Increasing profits of the companies.

— Obtaining noncommercial benefits associated with the participation in specialized programs (educational, informational).

There is also a substantial effect on the level of municipal entity, where the core of the cluster operates (Khvalynsk, the Saratov Region), including:

— Establishment of a modern high-tech research and production association of economic entities (cluster), which may engage all available resources.

— Creation of new high-tech jobs.

— Development of the business sector.

— Creation of a favorable investment climate within the municipality's economy.

— Lower costs of housing construction and its improved accessibility.

— Increase in the revenue of the city budget following the expansion of taxation base.

The region where most of the entities participating in the cluster are based (the Saratov Region) also gets a number of benefits after its establishment:

— Development (research, innovation, technological) of the construction complex in the region.

— Favorable image of the territory.

— Development of the regional innovation system, regional production system.

— Lower import dependency of construction complex.

— Lower costs of housing construction and its improved accessibility.

— Replenishment of the area's (regional) budget.

The following effects are realized at the level of the Russian Federation:

— Contribution to building the elements of national innovation and production systems.

— Preservation and development of national scientific and technological capacity.

— Creation of favorable conditions for attracting investments in research, production, and innovation activities.

— Increase in the gross domestic product.

— Qualitative change in the structure of foreign trade turnover (lower share of machinery and equipment in the imports, higher share of machinery and equipment in the exports).

[10] European Cluster Excellence Initiative (ECEI). Retrieved from: http://www.cluster-excellence.eu/ (date of access: February 22, 2016).

Conclusion

Implementation of the import substitution policy is aimed at addressing the key problem of the Russian economy—that is, its insufficient competitiveness. A specific aspect of current transformation in the world economy is the contradictions among the trends of its development. On the one hand, we see the global integration of economic space, which leads to industrial outsourcing. On the other hand, there are trends toward localization of spatial socioeconomic systems, political separatism, and reshoring—that is, the reverse flow of manufacturing industries to their countries of origin [17]. Countries that manage to combine the import substitution and export orientation policies can achieve high rates of economic development and count on having their place in the international division of labor. [18]

The priority areas for support under the policy of promoting the import substitution in the construction industry should be primarily aimed at overcoming the problems faced by the companies in the industry. In our opinion, it is advisable to give priority to the following areas:

— Elaborating and approving the Strategy for Innovative Development of the Russian Construction Industry until 2020–2030 by taking into account the promotion of import substitution in the industry.

— Elaborating a sectoral action plan in the machine-building industry for the needs of construction industry of the Russian Federation.

— Amending the Federal Law On Industrial Policy in terms of the initiation, promotion, and support for the establishment of cross-sectoral clusters.

— Encouraging the subjects of the Russian Federation to consider the development of cross-sectoral clusters on their territories during the elaboration of regional laws on industrial policy.

— Establishing the register of innovative products to create helpful information service for design and survey organizations, which would allow quick replacing of the imported materials with high-quality and affordable Russian analogs.

— Allocating the subsidies to the subjects of the Russian Federation for the development of regional science and innovation clusters in the area of construction on a competitive basis.

Acknowledgments

This paper is prepared under project No. 15–14–7-2 of Fundamental Research conducted by the Ural Branch of the Russian Academy of Sciences "The Forecast Assessment of Priority Areas for Modernization of the Ural Old Industrial Region to Ensure the Import Substitution."

References

1. Novoselov, V. (2013). Byt li rossiyskomu stroydormashu? [Is there a chance for Russian road construction machinery?]. *Stroitelnaya tekhnika i tekhnologii [Construction equipment and technologies], 8,* 28–34.

2. Makarova, I. V., Averina, L. M. & Petrov, A. A. (2014). Analiz effektivnosti sushchestvuyushchikh mekhanizmov podderzhki mashinostroitelnogo kompleksa regiona, realizuyushchikh potentsial novoy industrializatsii. Na primere Sverdlovskoy oblasti [Analysis of effectiveness of existing mechanisms for support of the regional machine-building complex to realize the potential of new industrialization. Example of the Sverdlovsk region]. *Regionalnaya promyshlennaya politika kak baza kachestvennogo neoindustrialnogo podyema proizvoditelnosti truda i innovatsionnoy konkurentosposobnosti korporatsiy. Mat-ly VII Mezhdunar. nauch.-prakt.y konf.; Perm, 3 dek. 2015 g [Regional industrial policy as the basis of a qualitative neo-industrial growth of labor productivity and competitiveness of innovative corporations. Proceedings of the 7th International Scientific and Practical Conference. Perm, December 2, 2015].* Perm: PGNIU Publ., 89–97.

3. *O merakh po realizatsii importozameshcheniya v grazhdanskikh otraslyakh promyshlennosti v interesakh ukrepleniya natsionalnoy bezopasnosti [On measures to implement import substitution in civil industries to strengthen the national security].* (2014). Analiticheskiy vestnik [Analytical bulletin], 27(545). Retrieved from: http://www.council.gov.ru/media/files/41d51d722c0fdcb10554.pdf (date of access: 12.03.2016).

4. Animitsa, E. G., Animitsa, P. E. & Glumov, A. A. (2015). Importozameshchenie v promyshlennom proizvodstve regiona. Kontseptualno-teoreticheskie i prikladnyye aspekty [Import substitution in the industrial production of the region. Conceptual, theoretical and applied aspects]. *Ekonomika regiona [Economy of region], 3,* 160–172.

5. Bruton, H. J. (1998). A Reconsideration of Import Substitution. *Journal of Economic Literature, 36(2),* 903–936.

6. Danilov-Danilyan, A. *Importozameshchenie v Rossii-2015. Chem obernetsya krizisnaya politika dlya kompaniy [Import substitution in Russia, 2015. What impact the crisis management policy will have on companies].* Kommercheskiy director [Commercial director]. Retrieved from: http://www.kom-dir.ru/article/309-importozameshchenie-v-rossii-2015 (date of access: 20.04.2016).

7. Semenov, A. M. (2014). *Politika importozameshcheniya v razvitii farmatsevticheskoy promyshlennosti Rossii: avtoref. dis. ... kand. ekon. nauk [Import substitution policy in the development of russian pharmaceutical industry: author's abstract of the thesis for the academic degree of PhD in Economics].* Moscow, 28.

8. Lavrikova, Yu. G. & Kotlyarova, S. N. (2014). Innovatsionnoye razvitie stroitelnogo kompleksa regiona na osnove klasternogo podkhoda [Innovative development of regional construction complex based on cluster approach]. *Ekonomicheskie i sotsialnyye peremeny. Fakty, tendentsii, prognoz [Economic and social change. Facts, trends, forecast], 3(33),* 169–181.

9. Lavrikova, Yu. G., Kotlyarova, S. N. & Suvorova, A. V. (2015). Importozameshchenie i tekhnologicheskaya modernizatsiya predpriyatiy stroitelnogo kompleksa na osnove klasternogo vzaimodeystviya [Import substitution and technological modernization of companies in the construction complex based on cluster interaction]. *Vektor nauki TGU [Science vector of Tomsk State University], 1(31),* 163–168.

10. Lavrikova, Yu. G., Kotlyarova, S. N. & Suvorova, A. V. (2014). *Mekhanizm realizatsii effektivnogo vzaimodeystviya predpriyatiy stroitelnogo i mashinostroitelnogo kompleksov na osnove klasternykh printsipov [The mechanism for implementing the effective collaboration of the companies in the construction and machine-building complexes based on cluster principles].* Sovremennyye problemy nauki i obrazovaniya [Modern issues of science and education], 6. Retrieved from: http://www.science-education.ru/ru/article/view?id=15561 (date of access: 15.04.2016).

11. Tatarkin, A. I. & Lavrikova, Yu. G. (2015). Klasternaya politika regionov v prostranstvennom obustroystve Rossiyskoy Federatsii [The cluster policy of regions in the spatial development of the Russian federation]. *Sovremennyye proizvoditelnyye sily [Contemporary productive forces], 2,* 111–126.

12. Kopsha, S. P., Loshchenko, A. L. & Lavrikova, Yu. G. (2015). *Innovatsionnyye tekhnologii importozameshcheniya s ispolzovaniem mezhotraslevogo klasternogo podkhoda [Innovative technologies of import substitution based on cross-sectoral cluster approach: monograph].* Ekaterinburg: Institute of Economics of UB RAS, 174.

13. Yamshchikova, I. V. & Kudryavtseva, V. A. (2012). Klasternaya initsiativa kak put innovatsionnogo razvitiya promyshlennosti stroitelnykh materialov regiona [Cluster initiative as a way of innovative development of the construction materials industry in the region]. *Polzunovskiy vestnik [Poluzniv's bulletin], 4,* 127–131.

14. Yagodina, N. V. (2010). *Formirovanie mezhotraslevykh klasterov v legkoy promyshlennosti: avtoref. diss. … kand. ekon. nauk [Building cross-sectoral clusters in light industry: author's abstract of the thesis for the academic degree of PhD in Economics].* Omsk: F.M. Dostoevsky Omsk State University Publ., 22.

15. Audretsch, D. B. & Feldmann, M. P. (1995). Innovative Clusters and the Industry Life Cycle. *Discussion paper. Center for Economic Policy Research, 1161,* 12–18.

16. Barkley, O. & Henry, M. (2001). *Advantages and disadvantages of targeting industry clusters.* Clemson: Clemson University Public Service Activities, 493.

17. Zhakevich, A. G. (2015). Importozameshchenie: problemy i perspektivy [Import substitution: problems and prospects]. *Vestnik Mezhdunarodnogo instituta ekonomiki i prava [Bulletin of the International Institute of Economics and Law], 1(18),* 36–39.

18. Cook, S. & Watson, Ph. (2011). A Comparison of Regional Export Enhancement and Import Substitution Economic Development Strategies. *The Journal of Regional Analysis and Policy, 41(1),* 1–15.

Author

Svetlana Nikolayevna Kotlyarova — PhD in Economics, Associate Professor, Head of Sector, Institute of Economics of the Ural Branch of RAS (29, Moskovskaya St., Ekaterinburg, 620014, Russian Federation; e-mail: sv_gavrilova@mail.ru).